

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1-9, 11-19, 23-24, and 26-28 are pending in the application, with claims 1, 13, and 23 being the independent claims. Claims 1, 11-13, and 23 are sought to be amended. Claims 10, 20-22, and 25 are sought to be cancelled without prejudice to or disclaimer of the subject matter therein. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Rejections under 35 U.S.C. § 112

Claims 23-28 were rejected under 35 U.S.C. 112, first and second paragraphs, as failing to comply with the written description requirement and to failing particularly point out and distinctly claim the subject matter that Applicant regards as the invention. Applicants respectfully traverse this rejection.

Claim 25 is cancelled, thereby rendering its rejection moot. Claims 24 and 26-28 were rejected because of their dependency on rejected claim 23. To expedite prosecution, claim 23 has been amended to address the Examiner's concerns. Additionally, support for claim 23 may be found in at least paragraphs 0088 and 0089 of Published Application No. 2005/0213067. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 23, 24, and 26-28.

Rejections under 35 U.S.C. § 102

Claims 1, 2, 9-11, 13-15, and 19-21 were rejected under 35 U.S.C. § 102(e) as being anticipated over U.S. Published Application No. 2004/0084633 to Moffatt ("Moffatt"). Applicants respectfully traverse this rejection because Moffatt does not teach each and every element of amended independent claims 1 and 13.

Moffatt is directed to an E-beam lithography system that compensates for thermal deformation of a wafer by adjusting "the incident electron beams with charged particle beam deflectors." *See* Moffatt, para. 0015. Paragraph 0043 further explains the uses of "deflection units to redirecting [sic] charged particle beams to compensate for the thermal deformation of the wafer." *Id.* para. 0043. Accordingly, Moffatt's system simply repositions the particle beam using deflectors. It should be noted that Moffatt does not teach or suggest changing the cross-sectional shape of the beam.

In contrast, Applicants' invention is directed to a lithographic apparatus that includes an "image correction system that adjusts a cross-sectional shape of the beam," as recited in claim 1, to compensate for thermal expansion or contraction of the substrate.

Applicants' invention is also directed to a method to compensate for thermal expansion by "adjusting one or more spatial characteristics" of a patterned beam, "wherein the spatial characteristics comprise a cross-sectional shape of the patterned beam," as recited in claim 13.

Moffatt does not anticipate claims 1 and 13 because it does not teach or suggest adjusting the cross-sectional shape of the particle beam to compensate for the thermal

deformation of the wafer. As mentioned, Moffatt merely deflects the particle beam to reposition the beam. Accordingly, claims 1 and 13 are patentable over Moffatt for at least these reasons.

Claims 2, 9-11, 12-15, and 19-21 depend either from claims 1 or 13, and are thus patentable over Moffatt for at least the reasons provided, and further view of their own features. Applicants therefore respectfully request that the Examiner reconsider and withdraw the rejections of claims 1, 2, 9-11, 13-15, and 19-21.

Rejections under 35 U.S.C. § 103

Claims 3-8, 16, and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Moffatt in view of U.S. Patent No. 6,088,080 to Itoh ("Itoh"). Claims 6, 16, and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Moffatt in view of U.S. Patent No. 6,377,334 to ("Whiting"). Claims 12 and 22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Moffatt in view of U.S. Patent App. No. 2002/0146628 to Ota ("Ota"). Applicants respectfully traverse these rejections.

Claims 3-8 and 12 depend from claim 1. Claims 16-18 and 22 depend from claim 13. The disclosures of Itoh, Whiting, and Ota add nothing to the disclosure of Moffatt to overcome the deficiencies of the latter with respect to claims 1 and 13. Claims 3-8, 16, and 18 are therefore patentable over these combinations of references for at least the reasons presented above. Applicants therefore request that the Examiner reconsider and withdraw the rejection of claims 3-8, 12, 16-18, and 22.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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